

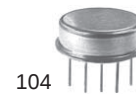
# BI-DIRECTIONAL COUPLERS



## THROUGH HOLE (8 Pin Relay Header)

| COUPLING<br>(dB) | FREQUENCY<br>RANGE<br>LF-HF | COUPLING<br>FLATNESS | MAINLINE LOSS<br>(dB) |               |               | DIRECTIVITY<br>(dB) |               |               | VSWR<br>TYP | PACKAGE | PIN-OUT<br>(See Below) | MODEL   |
|------------------|-----------------------------|----------------------|-----------------------|---------------|---------------|---------------------|---------------|---------------|-------------|---------|------------------------|---------|
|                  |                             |                      | LB<br>TYP/MAX         | MB<br>TYP/MAX | UB<br>TYP/MAX | LB<br>TYP/MIN       | MB<br>TYP/MIN | UB<br>TYP/MIN |             |         |                        |         |
| NOM              | (MHz)                       | (dB)                 |                       |               |               |                     |               |               |             |         |                        |         |
| 6.0 ± 0.5        | 10 - 100                    | ± 0.25               | 1.5/2.0               | 1.5/2.0       | 1.5/2.0       | 30/25               | 30/25         | 30/25         | 1.2:1       | 120     | 1                      | KAP-241 |
| 11.5 ± 1.0       | 0.5 - 400                   | ± 1.0                | 0.8/1.0               | 0.7/0.9       | 0.9/1.0       | 37/25               | 25/20         | 20/15         | 1.2:1       | 120     | 1                      | KBP-243 |
| 19.5 ± 1.0       | 0.5 - 400                   | ± 1.0                | 0.3/0.5               | 0.4/0.5       | 0.5/0.6       | 35/25               | 33/20         | 25/15         | 1.5:1       | 120     | 1                      | KDP-243 |

## THROUGH HOLE (TO-5 & TO-8)



| COUPLING<br>(dB) | FREQUENCY<br>RANGE<br>LF-HF | COUPLING<br>FLATNESS | MAINLINE LOSS<br>(dB) |               |               | DIRECTIVITY<br>(dB) |               |               | VSWR<br>TYP | PACKAGE | PIN-OUT<br>(See Below) | MODEL   |
|------------------|-----------------------------|----------------------|-----------------------|---------------|---------------|---------------------|---------------|---------------|-------------|---------|------------------------|---------|
|                  |                             |                      | LB<br>TYP/MAX         | MB<br>TYP/MAX | UB<br>TYP/MAX | LB<br>TYP/MIN       | MB<br>TYP/MIN | UB<br>TYP/MIN |             |         |                        |         |
| NOM              | (MHz)                       | (dB)                 |                       |               |               |                     |               |               |             |         |                        |         |
| 6.0 ± 0.5        | 10 - 100                    | ± 0.25               | 1.5/2.0               | 1.5/2.0       | 1.5/2.0       | 30/25               | 30/25         | 30/25         | 1.2:1       | 104     | 2                      | KAP-541 |
| 6.0 ± 0.5        | 10 - 100                    | ± 0.25               | 1.5/2.0               | 1.5/2.0       | 1.5/2.0       | 30/25               | 30/25         | 30/25         | 1.2:1       | 127     | 3                      | KAP-841 |
| 10.8 ± 1.0       | 10 - 500                    | ± 0.7                | 0.6/1.0               | 0.8/1.2       | 0.8/1.6       | 30/25               | 25/20         | 25/17         | 1.3:1       | 104     | 2                      | KBP-543 |
| 10.8 ± 1.0       | 10 - 500                    | ± 0.7                | 0.6/1.0               | 0.8/1.2       | 0.8/1.6       | 30/25               | 25/20         | 25/17         | 1.3:1       | 127     | 3                      | KBP-843 |
| 20.0 ± 1.0       | 10 - 500                    | ± 0.5                | 0.3/0.5               | 0.4/0.5       | 0.5/0.6       | 35/28               | 35/25         | 30/17         | 1.4:1       | 104     | 2                      | KDP-543 |
| 20.0 ± 1.0       | 10 - 500                    | ± 0.5                | 0.3/0.5               | 0.4/0.5       | 0.5/0.6       | 35/28               | 35/25         | 30/17         | 1.4:1       | 127     | 3                      | KDP-843 |

Power rating (all models) = 1 Watt, max

\* Select connector suffix: "S" = SMA, "B" = BNC, "N" = Type N, "T" = TNC

Impedance, unless otherwise noted is 50 ohms.

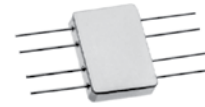
For pin location and package outline drawings, see back pages.

LB=LF to 10 LF  
MB=10 LF to HF/2  
UB=HF/2 to HF

PIN-OUT TABLE

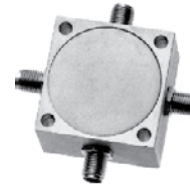
|    | INPUT | OUTPUT | FORWARD<br>COUPLED | REVERSE<br>COUPLED | CASE<br>GND |
|----|-------|--------|--------------------|--------------------|-------------|
| #1 | 6     | 3      | 4                  | 1                  | All Other   |
| #2 | 8     | 5      | 11                 | 2                  | All Other   |
| #3 | 1     | 2      | 4                  | 3                  | 5           |

# BI-DIRECTIONAL COUPLERS



## FLAT-PACK

| COUPLING<br>(dB)<br>NOM | FREQUENCY<br>RANGE<br>LF-HF<br>(MHz) | COUPLING<br>FLATNESS<br>(dB) | MAINLINE LOSS (dB) |               |               | DIRECTIVITY (dB) |               |               | VSWR<br>TYP | PACKAGE | PIN-OUT<br>(See Below) | MODEL   |
|-------------------------|--------------------------------------|------------------------------|--------------------|---------------|---------------|------------------|---------------|---------------|-------------|---------|------------------------|---------|
|                         |                                      |                              | LB<br>TYP/MAX      | MB<br>TYP/MAX | UB<br>TYP/MAX | LB<br>TYP/MIN    | MB<br>TYP/MIN | UB<br>TYP/MIN |             |         |                        |         |
| 10.8 ± 0.7              | 10 - 500                             | ± 0.5                        | 1.0/1.3            | 1.0/1.4       | 1.2/1.6       | 28/23            | 28/24         | 23/20         | 1.2:1       | 101     | 4                      | KBF-143 |
| 20.3 ± 0.7              | 10 - 500                             | + 0.5                        | 0.3/0.4            | 0.3/0.5       | 0.4/0.5       | 35/28            | 35/25         | 30/20         | 1.35:1      | 101     | 4                      | KDF-143 |



## COAXIAL CONNECTOR

| COUPLING<br>(dB)<br>NOM | FREQUENCY<br>RANGE<br>LF-HF<br>(MHz) | COUPLING<br>FLATNESS<br>(dB) | MAINLINE LOSS (dB) |               |               | DIRECTIVITY (dB) |               |               | VSWR<br>TYP | PACKAGE | PIN-OUT<br>(See Below) | MODEL    |
|-------------------------|--------------------------------------|------------------------------|--------------------|---------------|---------------|------------------|---------------|---------------|-------------|---------|------------------------|----------|
|                         |                                      |                              | LB<br>TYP/MAX      | MB<br>TYP/MAX | UB<br>TYP/MAX | LB<br>TYP/MIN    | MB<br>TYP/MIN | UB<br>TYP/MIN |             |         |                        |          |
| 6.0 ± 0.5               | 10 - 100                             | ± 0.25                       | 1.5/2.0            | 1.5/2.0       | 1.5/2.0       | 30/25            | 30/25         | 30/25         | 1.2:1       | 113     | 5                      | KAK-741* |
| 10.0 ± 1.0              | 2 - 100                              | ± 0.5                        | 0.9/1.0            | 0.9/1.0       | 0.9/1.0       | 45/35            | 37/33         | 35/30         | 1.2:1       | 113     | 5                      | KBK-741* |
| 10.8 ± 0.5              | 10 - 500                             | ± 0.5                        | 0.6/1.0            | 0.8/1.2       | 0.8/1.6       | 30/25            | 25/23         | 25/20         | 1.3:1       | 113     | 5                      | KBK-743* |
| 11.5 ± 0.5              | 10 - 1000                            | ± 1.1                        | 1.5/1.8            | 1.6/1.9       | 1.6/2.0       | 45/30            | 28/23         | 20/15         | 1.4:1       | 113     | 5                      | KBK-744* |
| 15.0 ± 1.0              | 2 - 100                              | ± 0.5                        | 0.4/0.5            | 0.3/0.5       | 0.4/0.6       | 35/30            | 35/30         | 33/30         | 1.3:1       | 113     | 5                      | KCK-741* |
| 15.0 ± 1.0              | 10 - 500                             | ± 0.75                       | 0.5/0.8            | 0.7/1.0       | 0.8/1.2       | 35/25            | 33/25         | 30/25         | 1.3:1       | 113     | 5                      | KCK-743* |
| 15.0 ± 1.0              | 5 - 1000                             | ± 0.75                       | 0.5/1.0            | 0.8/1.3       | 1.0/1.65      | 30/25            | 28/23         | 25/20         | 1.5:1       | 113     | 5                      | KCK-744* |
| 20.0 ± 1.0              | 2 - 100                              | ± 0.5                        | 0.15/0.25          | 0.1/0.2       | 0.1/0.25      | 43/33            | 38/33         | 33/30         | 1.06:1      | 113     | 5                      | KDK-741* |
| 20.0 ± 1.0              | 10 - 500                             | ± 0.5                        | 0.3/0.6            | 0.4/0.8       | 0.5/1.0       | 35/28            | 35/25         | 35/25         | 1.3:1       | 113     | 5                      | KDK-743* |
| 20.0 ± 1.0              | 10 - 1000                            | ± 1.0                        | 0.4/0.5            | 0.5/1.0       | 1.0/1.5       | 30/23            | 25/18         | 20/15         | 1.3:1       | 113     | 5                      | KDK-744* |

Power rating (All models) = 1 Watt, max

\* Select connector suffix: "S" = SMA, "B" = BNC, "N" = Type N, "T" = TNC  
Impedance, unless otherwise noted is 50 ohms.

|           |               |
|-----------|---------------|
| <b>LB</b> | LF to 10 LF   |
| <b>MB</b> | 10 LF to HF/2 |
| <b>UB</b> | HF/2 to HF    |

| PIN-OUT TABLE |       |        |                    |                    |           |
|---------------|-------|--------|--------------------|--------------------|-----------|
|               | Input | OUTPUT | FORWARD<br>COUPLED | REVERSE<br>COUPLED | CASE GND  |
| #4            | 1     | 5      | 4                  | 8                  | All Other |
| #5            | 1     | 4      | 2                  | 3                  | --        |

For pin location and package outline drawings, see back pages.